

## MISCELLANEOUS NOTES

### 1. RECORD OF THE FULVOUS FRUIT BAT, *ROUSETTUS LESCHENAULTI* (DESMAREST, 1820) FROM SIKKIM, WITH NOTES ON ITS INTERESTING FEEDING HABIT AND STATUS

In Indian limits, the Fulvous Fruit Bat, *Rousettus leschenaulti* (Desmarest, 1820), is known from the Himalayan foothills of north-eastern India and Uttar Pradesh to the southern Peninsula (Blanford 1891, Ellerman and Morrison-Scott 1951, Brosset 1962, Khajuria and Ghose 1970, Khajuria 1979, Rookmaaker and Bergmans 1981). According to Prater (1965, p. 179), though this habitual cave-dwelling species of the tropical region is found as high as 2150 m. in the temperate zone of the Himalayas, the extant literature does not record its occurrence in Sikkim. However, during a recent field survey in the northern part of that State, two specimens of the Fulvous Fruit Bat were collected in a mist-net, and they constitute the first authentic record of its occurrence in Sikkim.

The specimens were collected at Teen-ku-Pokhari which is a hill stream pool in the Hee Gyathang reserve forest on the western slope of the Tista Valley, about 17 km. WSW of Mangan, the District Headquarters of North Sikkim. The lower parts of the valley here has extensive cultivation. The higher slope, holding the reserve forest, sustains luxuriant middle hill montane forest.

The weather as recorded in the field on collection date are: Temperature: Max. 19°C; Min. 11°C. Relative Humidity (%): Max. 80; Min. 47.

Data on their size together with their interesting feeding habit and status, are given below:

Material: 1 ♂, 1 ♀ (subad.): Teen-ku-Pokhari, c. 1829 m, Hee Gyathang, North Sikkim; 9 January 1982; R. K. Ghose coll.

*Measurements:* External: 1 ♂: Forearm: 84.7. Skull: Occipitopremaxillary length: 37.6; postmolar length: 23.2; cranial width: 15.5, zygomatic width: 24.1; bulla: 4.5; m<sup>2</sup>-m<sup>2</sup>: 12; C<sup>1</sup>-C<sup>1</sup>: 8.3; M<sub>3</sub>: 1.6 x 1; C<sup>1</sup>-M<sup>2</sup>: 14.5.

These bats, in hundreds, were noticed to fly and dive repeatedly over the water surface of the hill stream pool, which was full of small fish and tadpole, during evening and night. With night scope and spot light they were observed to be scooping up something from the water. It was believed that they were catching fish. This is corroborated by the gut content of the male specimen netted which showed the presence of undigested bone pieces and muscle fibres of fish, and some muscle fibres of fish were collected from the teeth of the female. This is in sharp contrast to its usual fruit-eating habit.

The three kinds of small hill stream fishes collected from the place were identified as *Garra gotyla* (Gray), *Danio aequipinnatus* (McClelland), *Schizopyge progastus* (McClelland), all belonging to the family Cyprinidae. The anuran tadpoles could not be properly identified.

Some tropical species of bats that visit the temperate zone of the Himalayas in spring and summer, migrate to warmer areas in winter. The few that have adapted themselves to the cold climate and do not migrate, either

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hibernate or show a temporary period of inactivity due to the severity of low temperature. It is interesting to note that the population of the Fulvous Fruit Bat under report did not migrate, nor did it show any discomfort due to the low temperature. Moreover, it has adapted itself to eating-fish, most probably due to the scarcity of fruits in the surrounding forests during the severe cold weather in January. This bat should normally have migrated to a place where fruit which is its usual diet, is available, but it is of interest to note that instead it has developed a new food-habit. Blanford (1891), reported *Rousettus amplexicaudatus* (E. Geoffroy, 1810) feeding on exposed molluscs at Moulmein, Burma.

Blanford (op. cit.) regarded *Rousettus amplexicaudatus* and *Rousettus leschenaulti* con-

specific. Ellerman and Morrison-Scott (1951), however, treated them as separate species. In a recent work Rookmaaker and Bergmans (1981) pointed out that the Burmese species of the fruit bats referred to in literature as *Rousettus amplexicaudatus* are actually *Rousettus leschenaulti*. They (Rookmaaker and Bergman, op. cit.) also mentioned some morphometric variations in some specimens of *Rousettus leschenaulti*, which overlap those of *Rousettus amplexicaudatus*. The measurements of  $M_3$  in our male specimen is also within the range of that of *R. amplexicaudatus* (1.1-1.7 vs. 1.7-2.1) in *R. leschenaulti* as mentioned by Rookmaaker and Bergmans (op cit.). It would, therefore, appear that a detailed study on the taxonomic characters of the Fulvous Fruit Bats might be of interest.

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